

**ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM**

Plant Abstract

Element Code: PDSCR1L1E0

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE



ME: *Penstemon clutei*

COMMON NAME: Sunset Crater Beardtongue, A Beardtongue, Pink Penstemon

SYNONYMS: *Penstemon pseudospectabilis* ssp. *clutei*

FAMILY: Scrophulariaceae

AUTHOR, PLACE OF PUBLICATION: A. Nelson. American Botanist 33: 109. 1927.

TYPE LOCALITY: Vicinity of Sunset Crater, Coconino County, Arizona.

TYPE SPECIMEN: HT: RM. W.N. Clute, 12 July 1923.

TAXONOMIC UNIQUENESS: Distinct species in a genus of about 300 species indigenous to America from Alaska to Guatemala. Forty six *Penstemon* sp. found in Arizona (Lehr 1978). Once considered a subspecies of *P. pseudospectabilis*. *Penstemon clutei* is known only from Arizona.

DESCRIPTION: A perennial herb with stems, one to several, erect 30.0 to 80.0 cm (12.0 to 32.0 in.) tall, glabrous and glaucous except in the inflorescence. Leaf blades lanceolate to broadly ovate, finely and sharply serrate-dentate, whitish-green; lower ones petioled, cauline ones sessile, uppermost connate-perfoliate, forming disks up to 8.0 cm (3.2 in.) long and 4.0 cm (1.6 in.) wide. Inflorescence rather open, the lower part usually leafy, often interrupted by long internodes; the peduncles and pedicels erect or nearly so, more or less glandular-pubescent. Sepals 3-5 mm long, sparsely puberulent. Corolla deep pink or rose-purple, sparsely puberulent externally, 1.5 to 2.5 cm (0.6-1.0 in.) long, nearly regular; throat definitely ventricose, 9-12 mm wide. Staminode glabrous or nearly so. Capsule broadly ovoid, 7-10 mm long.

AIDS TO IDENTIFICATION: *P. clutei* corolla swollen underneath with belly like protuberance; 9-12 mm wide. *P. pseudospectabilis* corolla only moderately inflated, 6-9 mm wide (Fletcher 1979). Can be distinguished by the sharply toothed leaves that are amplexicaul on the lower portions of the plant, by the bright pink flowers when in bloom, and by the size-up to 3 feet tall. The more common *Penstemon barbatus*, which is found in the area, has entire, non-amplexicaul leaves and red flowers.

ILLUSTRATIONS: Line drawing of plant in flower (USFWS)

Color photo (<http://www.thompson-morgan.com/seeds/uk/>)

Color photo

(<http://www.thevisualsite.com/photo-links/flower-and-garden/Penstemon-clutei.jpg>)

Color photo (Epple 1995)

Color photo (Peterson *in*

http://plants.usda.gov/cgi_bin/plant_profile.cgi?earl=plant_profile.cgi&symbol=PECL5&...)

TOTAL RANGE: Sunset Crater volcanic fields north and east of Flagstaff, and the Indian Flat area, Coconino County, north-central Arizona.

RANGE WITHIN ARIZONA: See “Total Range.”

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Herbaceous perennial.

PHENOLOGY: Flowers from April - August.

BIOLOGY: Probably relatively permanent in absence of disturbance. It has been suggested “...that *P. clutei* may be an amphidiploid species,” that is, a sterile F1 hybrid that has restored fertility through the doubling of the chromosome number allowing a balanced chromosome assortment (Clokey & Keck 1939). Occurs as a cluster of 10-50 individuals in an area of about 100 square feet. Each is separated from similar clusters by 100-300 feet of unoccupied habitat. Large clusters may contain several hundreds of individuals. This plant is a short-lived perennial that is estimated to live 5-10 years.

HABITAT: Found in cinder fields that are devoid of a soil covering and where other herbaceous vegetation is sparse.

ELEVATION: 6,100 - 8,500 ft. (1861 - 2593 m), although this plant occurs between 2750-5890 ft (838-1,795 m) in Nevada.

EXPOSURE: Various aspects.

SUBSTRATE: Volcanic ash-cinders 5-10 cm thick with a layer of silty soil of similar thickness below. This soil structure has an important function in water retention after rains. The underlying soil retains water for a longer period of time than the cinder layers above after summer moisture is received. This allows the plant to retain moisture in the area of the root system during periods when no moisture is received. Areas of deep cinders without the soil layer, areas on the slopes of cinder cones where soil is unstable, and areas of dense vegetative cover by other vegetation such as Blue grama do not provide the required microhabitat for this plant.

PLANT COMMUNITY: Ponderosa pine forest. Associated species include: *Fallugia paradoxa* (Apache-plume), *Chrysothamnus* spp. (Rabbit-brush), *Penstemon barbatus* (beard-lip beardtongue), *Verbascum thapsus* (Great Mullein), *Bouteloua gracilis* (blue gramma), *Pinus edulis* (Pinyon pine), and *Juniperus osteosperma* (Utah Juniper).

POPULATION TRENDS: Apparently stable.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None (USDI, FWS 1996)
[C2 USDI, FWS 1993]
[3C USDI, FWS 1985]
[3C USDI, FWS 1980]
[PE USDI, FWS 1976]
[PTN-E USDI, FWS 1975]

STATE STATUS: Salvage Restricted (ARS, ANPL 1999)
[Salvage Restricted (ARS, ANPL 1993)]

OTHER STATUS: Forest Service Sensitive (USDA, FS Region 3 1999)
[Forest Service Sensitive (USDA, FS Region 3 1990)]

MANAGEMENT FACTORS: Part of area is susceptible to impact by off-road vehicles. Plant is dependent on periodic, moderate heated fires. If the fire is too hot, the plant will be lost. Found in horticultural trade.

CONSERVATION MEASURES TAKEN: USDA Forest Service manages as a sensitive species.

SUGGESTED PROJECTS: Off-road vehicle impact should be reduced. Updated status report needs to be done.

LAND MANAGEMENT/OWNERSHIP: NPS - Sunset Crater National Monument; USFS - Coconino National Forest. Possibly Private.

SOURCES OF FURTHER INFORMATION

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ADDITIONAL INFORMATION:

Revised:	1992-11-24 (JSP)
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